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ABSTRACT

As distance learning plays an increasing role in adult education, instruction to older adults must be adapted for individual learner differences. Two stereotypic adult education client groups have been described: the SAVY adult (Schooled, Active, Verbal, Younger) and the ONUS adult (Older, Non-Verbal, Unschooled, Sedentary). Instructional methods that work for one type of learner fail with the other. The SAVY learner is benefited by higher load methods that tend to be more discovery-oriented, non-directive, unstructured, open ended, unguided approaches. Most effective for ONUS students are those lower load methods which are highly organized, with shorter sequences in instruction, rapid and accurate feedback about performance, and many directive instructions. Of importance for the design of instruction for adults is a curious antagonism that has been found between learning and the enjoyment of instruction. Adult learners tend to report enjoying that instructional method from which they learned the least. Suggestions for designing instructional programs for adult distance learning are that those instructional methods lower in information processing load are probably most effective and formative evaluation is needed in developing instructional programs; and ONUS adults should be provided with learning stategies, while SAVY adults should be urged to use strategies already acquired. (YLB)

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ADAPTING "DISTANCE LEARNING" INSTRUCTION TO OLDER ADULT DIFFERENCES

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Compelling evidence exists that different types of adult learners profit from different instructional techniques. This paper centers on the differences between two stereotypic adult education client groups, the SAVY adult (Schooled, Active, Verbal, Younger), and the ONUS adult (Older, Not-Verbal, Unschooled, and Sedentary). Instructional methods which work for one type of learner but fail with the other type will be presented; a curious antagonism between learning and the enjoyment of instruction will be described; and a specific instructional method will be suggestd which may maximize the learning and enjoyment of all adults.

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Compelling evidence indicates that different types of learners profit from different instructional techniques. Cronbach and Snow (8), in their comprehensive review of the last two decades of instructional research, concluded that individual differences of learners were so important that "the substantive problem before us is to learn which characteristics of the person interact dependably with which features of instructional methods" (p. 493).

The ability to make such determinations is particularly important when the client is an adult learner. As Knox (12) points out, individual differences within age cohorts increase as members of the cohort grow older, due, among other things, to differing life experiences. Further, the number of adult learners is increasing at a faster rate than the population. The number of adults who score extremely high or low on measures of, for example, ability, motivation, and self-efficacy is increasing at a rapid rate. In short, there are more adults today than ever before; they differ from one another greatly; and these differences have significant instructional design implications.

At the same time that the proportion and diversity of adult learners is increasing, there is a growing

demand for learning opporunities delivered through "distance learning" approaches -- mass media technologies such as television, radio, newspapers, or correspondence materials. In all sectors of education and training - the military, business and industry, universities, community colleges, professional education -- educational program planners seek to locate or develop packages of training materials they can adapt to their setting. Distance learning approaches tend to enjoy a lower per-student cost than classroom or community-based programs, and adult learners appreciate the flexibility of instructing themselves at a time and place convenient to their schedule. Policy makers are increasingly interested in funding such approaches (Lifelong Learning and Public Policy, 13), both for their cost benefits and their wide dispersibility. Demand for distance learning materials, then, is increasing on the part of program planners, adult learners, and policy makers (Richardson, 14).

This situation has the potential to become a serious problem for adult educators. In the typical face-to-face classroom situation, the individual differences of adult learners present few problems to the adult educator, for most are experienced at modifying

instructional presentations to fit the special needs and interests of individual students. But with distance learning materials, there is little opporunity to tailor an instructional sequence to the special demands of individual adult learners. Efficiency and cost-effectiveness dictate mass production and mass delivery. Thus, as the need to shape the instructional message to the unique characteristics of adult learners increases, our capacity to do so seemingly is decreasing.

This article will present an approach to tailoring or adapting instruction for different learners in the distance learning setting. It begins with the assumption that distance learning will play an increasing role in adult education and that some way must be found to incorporate new knowledge about individual differences in learning into instruction presented via mass media. An attempt will be made in this paper to consider the realities and constraints facing the distance learning specialist and to incorporate reasonable generalizations from current research on instructional methods and adult aptitudes. The discussion will be presented in four parts: 1. Two different kinds of adult learners will be described; 2. Instructional methods which work for one type of learner but seem to

fail with others will be characterized; 3. A curious antagonism between learning and enjoyment of instruction will be described; and 4. A specific instructional method will be suggested for distance learning programs which may maximize the learning and enjoyment of all adults.

Two Types of Adult Learners

Many individual differences in adult learner traits interact with instructional methods. Researchers disagree about which adult traits are the most powerful predictors of learning under different conditions (Cronbach and Snow, 8; Wittrock, 19). For the purposes of illustration, this discussion will center on the differences between two stereotypic adult education client groups, the SAVY adult (Schooled, Active, Verbal, and Younger) and the ONUS adult (Older, Not-Verbal, Unschooled and Sedentary).

The SAVY, those who are most likely to participate in formal and informal learning opportunities, are often married, affluent, have some college or university experience, are involved in the community, appreciate their lives, are reasonably happy and accomplishment-oriented, and have a need for attention, autonomy, order,

nurturance, and change (Goldstein, 11). Most are employed in full-time work, either in the home or in outside employment. Most have a reasonably high academic self-concept, active minds, and take frequent advantages of informal and nonformal educational opportunities (Cross, 9). They are able to utilize distance learning opportunities because they are good independent learners with a history of self-confident use of educational experiences to further their own ends. Their higher verbal skills are often correlated with higher general ability and therefore greater achievement. Most important, this group of students has "learned how to learn".

The ONUS (Older, Not Verbal, Unschooled, and Sedentary) individual, on the other hand, tends to have a history of failure and/or little experience at all with formal education. Many are unemployed, from a lower socioeconomic background, are less likely to enroll in adult programs, and are much more likely to drop out once enrolled (Anderson and Darkenwald, 2). The much older ONUS adults often have some sensory deficit, eight years of education or less and are seldom inclined to seek out education as a response to personal problems or requirements. Many in the ONUS

group have a deep seated, negative self image of themselves as learners, feeling that they are "too dumb to learn" or "too old to learn" and not ready to risk trying. Many suffer from "learned helplessness" (Seligman, 17), the belief that they cannot improve their life situation through their own efforts. When this group does become involved in an instructional program they tend not to be able to call upon learned strategies to solve problems or to store information for later use. They find it difficult to understand what is being asked of them in instruction and have a corresponding difficulty in organizing material to be learned so that it can be dealt with effectively. They find it difficult to plan their time and to imagine what the solution to a learning problem will "look like" (Salomon, 16).

The general instructional rule for the SAVY student is to avoid doing for them what they can do for themselves, and for the ONUS student, it is to do for them what they cannot do for themselves.

Instructional Methods for Different Types of Adults

The range and diversity of instructional methods available to the adult learner is so great as to

defy classification (Knox, 12). Clark and Snow (7) have noted that very similar instructional methods often carry very different labels, while the variety of operations contained within a single method is often so great that research in instructional methods is difficult to interpret.

Rather than attempt to classify all instructional methods by familiar labels, (e.g. programmed instruction, lecture, Keller plan, individualized instruction), Snow (18) has recently suggested a criteria for understanding the different functions of methods for different students. He recommends that the most important learning is the amount of "information processing load" it places on the student. The more the instructional method forces students back on their previously acquired learning strategies and personal motivation, the higher the "load" of the instruction on the student. Conversely, the more the method being used provides the strategies, organization, direction and so on for the student, the lower the "load" or burden on the student to draw on personal learning reserves. While the concept of instructional load is not as precise as one would hope, it does allow for a more explicit way to conceptualize the many and diverse approaches

to teaching which are available. Snow (18) has claimed that variation in "instructional supports" or load account for much of the experimental variance in instructional research studies.

The concept of load also allows us to achieve a clearer understanding of the methods which might help SAVY and ONUS learners. It is the higher load methods which benefit the SAVY learner. These methods tend to be the more discovery-oriented, nondirective, unstructured, open ended, unguided approaches. Many years of formal and nonformal schooling have left the SAVY with many skills which they can bring to bear in more unstructured, or higher load instructional programs. In fact, there is some evidence that among the few instructional methods from which they do <u>not</u> profit are those which direct the SAVY student to use a particular strategy of learning (Salomon, 15). When adult educators direct this group to use some specific study or problem solving method, it oftens interferes with an existing strategy which the SAVY student has found to be successful. That interference actually seems to decrease learning for this student to below that which would be achieved had the SAVY adult been left to his or her own devices.

On the other hand, the most disastrous instructional methods for the ONUS adult are those which are lower load, i.e. nondirective, unstructured, open and discovery oriented. Unlike the SAVY adult, the ONUS student has few strategies with which to plan, understand which is required, direct attention to significant elements in the educational program, solve problems, effectively store information for later use, and motivational resources to draw upon when a task gets difficult, The most effective instruction for the ONUS students are those lower load methods which are highly organized, with shorter sequences in instruction, rapid and accurate feedback about performance to the student, and many directive instructions about how to approach tasks and how much time should be spent for successful completion. The effective method for ONUS students has to reduce the load on the student and bring the student's attention to the relationship between the effort which is invested in learning and increased achievement. It is the recognition of this relationship which increases the ONUS's perception of self-efficacy (Salomon, 16). Specific instructional methods which hurt the SAVY adult tend to be beneficial for the ONUS. For example, the ONUS adult learns much more when the instructional

material provides not only the information to be learned, but also a strategy for learning it. If material is to be committed to memory, it is very useful to provide "memory tricks" or mnemonic devices to the student. This reduces the load on memory, If long paragraphs are offered, it may be helpful to the ONUS learner if the topic sentences or main ideas are underlined. Larger problems in home budgeting instruction, for example, can be made much more solvable if the ONUS is given the problem in short "chunks" or sections rather than "all at once".

Balancing Achievement and Enjoyment for the Adult Student

Individual differences of adult learners tend not only to predict learning and achievement but also the extent to which the learner will have a positive attitude towards the learning experience. However, Clark (6) has found important evidence for a paradoxical twist in this achievement-enjoyment relationship which is very important for the design of instruction for adults.

While reviewing instructional research studies where individual differences have been incorporated, Clark (6) serendipitously discovered that adult learners tended to report enjoying that instructional method from which they learned the least. This antagonistic

relationship held up for all studies where both achievement and enjoyment were measured as outcomes and which utilized individual differences similar to the SAVY and ONUS distinctions. As he investigated further, an even more curious phenomenon appeared. SAVY adults seemed to learn best from higher load methods which included more open, less directive, and more challenging material. However, they typically reported disliking those methods when compared to the lower load and more directive instructional methods. And the reverse trend occured for ONUS students. They learned best from more structured, lower load methods. Since one of the important goals of adult education is to achieve both learning and enjoyment, this finding poses problems for the designer of learning experiences. Bloom (4) has presented data which suggested that student enjoyment both predicts adult decisions to participate in learning experiences and is one of the best indicators of continued achievement in education, both formal and nonformal.

Clark (6) explained the achievement-enjoyment antagonism in the following manner: All adult learners tend to want to achieve the greatest amount with the minimum investment of effort. The strategy which most

students use can be compared to that utilized by investment specialists in the economic arena, what has been called the mini-max principle of economics; achieve the maximum return on the minimum investment of funds. However, this principle has different consequences for different types of learners. The SAVY student perceives the lower load, directive methods of instruction as more efficient. Lower load methods seem to offer greater achievement potential with less effort, since they provide more instructions on what direction to take, give explicit directions on strategies to employ, set forth clear objectives for each segment of the learning program and so on. In fact, these lower load methods provide many strategies which interfere with the SAVY's existing and successful learning strategies, and this interference actually increases the difficulty SAVY's have in achieving maximum learning. However, the SAVY student tends to make an incorrect "attribution" of the "cause" of his or her learning performance (Bar Tal, 3) and believes that the instructional method is more important than the conflicting strategies in determining the amount of achievement realized. This incorrect attribution survives the instructional experience regardless of the

actual amount of achievement and therefore the SAVY student continues to enjoy the lower load method even though it results in less learning. The saving point here is that the performance of the SAVY students who are provided with a low load method is not dramatically different than their performance with a higher load and more permissive method. Although these differences reach statistical significance in many studies, their actual mean scores on learning tests in the two types of methods only vary a few points (statistical significance being due in many studies more to the number of adult participants in the study).

The achievement-enjoyment antagonism is much more debilitating for the ONUS than for the SAVY adult. The ONUS adult reports liking the more permissive and open higher load methods, but achieves considerably less with them than with the lower load methods, which they report disliking. The explanation for why the ONUS student likes and achieves from the opposite types of instructional methods than those which favor the SAVY student are consistent. The ONUS student has a history of failure and lowered self-efficacy. The ONUS perceives most instructional methods as inefficient. In other words, the ONUS believes that he or she will not achieve, no

matter what instructional method is employed, and therefore chooses the higher load and more open method which allows the greatest freedom, novelty (and often the least amount of visibility). These features of the more open methods are enjoyed but the ONUS student learns considerably less from them, since they provide little of the needed direction, structure, strategies for learning and remembering and so on. It is the ONUS student, the data indicates, who is most seriously affected by this achievement-enjoyment antagonism. ONUS performance in higher load methods is both statistically and instructionally lower to such an extent that one could reasonably conclude that higher load methods are often disastrous for ONUS adults. The fact that adult educators tend to favor the more permissive and open methods for ONUS learners is therefore puzzling. It may be that adult education evaluations of learning experiences rely heavily on the measurement of enjoyment or numbers participating rather than on comparisons of learning achievement. It may also be that we tend to generalize incorrectly from the achievement data obtained from SAVY adults and attempt to apply them to ONUS adults. Whatever the reason, the evidence mounts that it is the ONUS student who is most obviously affected by our current incorrect assumptions about the

relative effectiveness of "open" instructional methods and philosophies.

This kind of instructional phenomenon poses additional problems for the distance educator. Not only does it appear that different types of adults learn from different instructional methods but it also seems that many adult learners are generally unaware of the learning consequences of their choices between different instructional programs. The most obvious solution to the problem of individual differences in learning would simply be to try to adapt instructional methods to the unique qualities of adult learners. This approach, however, is difficult for the distance learning specialist utilizing the mass media, and would probably not accomodate the achievement-enjoyment antagonism problem described above. Directing adults to the instructional method which resulted in greater achievement would, under some conditions, result in less enjoyment with the learning experience, which could lead to less participation in adult education programs in the future. Obviously, a specific instructional method which is compatible with the constraints of distance learning and which maximize the learning and enjoyment of both SAVY and ONUS adults must be found.

An Instructional Method for Distance Learning

The key element in selecting an instructional method which maximizes the learning and enjoyment of adult learners is the finding that SAVY students are less vulnerable to variations in methods, while ONUS students seem most affected by the method the adult educator employs. The following suggestions are tentative and only loosely based on research. The reader who wants to go beyond the abbreviated discussion which follows should consult more extensive reviews and suggested techniques presented by Goldstein (et al, 11), Robert Gagne and Leslie Briggs (10), and by William Allen (1).

When constrained by presenting learning experiences via the mass media, the distance learning specialist presumes that one major instructional strategy must be employed for most programs. There is little possibility of individualizing or even "groupalizing" instructional methods to fit the special requirements of SAVY or ONUS learners. The question then becomes, "How do we maximize the learning and achievement or enjoyment of the SAVY learners"? Following are a list of suggestions for those designing instructional programs for adult distance learning.

1. Keep in mind that the SAVY and ONUS distinctions are

stereotypes which represent extreme groups.

The vast majority of adult learners will not fall neatly into either of these two adult learner descriptions. However, most learners can be usefully catagorized, for the purposes of designing adult distance learning experiences, as either ONUS or SAVY types. We need to be sensitive to the fact that labels can be afflictions as well as helpful tools and avoid the tendency to assume that ONUS adults will always and under all conditions act the way we expect ONUS adults to act. Most important is the clear evidence that SAVY students occasionally act like ONUS students and vice versa. Therefore, the important instructional point is to give the adult learner whatever available information we have about the ways they might learn best and encourage them to make their own decisions about the way they will approach learning experiences. Salomon (16) discusses the importance of this "learner control".

2. The most effective instructional method for all adult learners is probably the one which is lower in information processing load.

Clear evidence argues for the learning and achievement benefits of lower load methods for the vast majority of learners. These more directed, organized and shorter

segment instructional programs tend to favor the ONUS student but do not really seem to retard the learning of the SAVY adult beyond their capacity to recover (Clark, 6). Briefly, these methods have some of the following characteristics; they tend to possess:

A. Clear objectives and expectations which are clearly and effectively communicated to the adult learner.

B. Entertaining presentations which at the same time do not detract from the instructional task.

C. A precise organization of the material to be learned; wherever possible the material should be organized with the most important or super-ordinate point first and all subordinate points following. Rules, for example, should preceed examples and all examples should be relevant to the audience's experience.

D. Shorter segments where the information to be learned from the segments is clearly identified and a test-like event allows the student to practice what they have learned.

E. Suggestions for the amount of time which the student should spend on specific elements of

the instructional program.

F. Ample suggestions for practicing the skills learned from the program outside of the place where the program was learned.

G. The opportunity for feedback from peers or teachers on student learning and performance. Wherever possible use peer models and ask adult learners to "role play" the skills to be learned (when they are social skills or when role playing is appropriate).

3. It is very important that the adult diatance learning specialist employ formative evaluation when developing instructional programs.

Formative evaluation (Burton and Aversa, 5) essentially involves testing prototype instructional methods and materials with small groups of adult learners who are similar to those who will eventually receive the program. Revisions in the early stages of the program design can prevent later more costly errors. Burton and Aversa (5) have found that formative evaluation of the first draft of a script for a television program or film is as valid an indicator of eventual adult learning and enjoyment from the finished program as is

the more costly evalutaion and revision of a rough cut with sound track. It is at this formative evaluation stage that we can check to see whether we are helping one type of adult learner at the expense of the others. The suggested goal is that we help the ONUS adult achieve learning objectives without seriously inhibiting the SAVY adult.

4. <u>The important aspect of instruction which distinguishes between SAVY and ONUS adult learners is the providing of learning strategies. Find a way to provide necessary learning strategies to the ONUS adult and another way to urge the SAVY adult to use the strategies they have already acquired</u>.

Although the use of mass media such as television, radio and other electronic media are common in distance learning, it is seldom the case that these media are the only contact with adult learners. Most television series, for example, provide written material (books, pamphlets, quizzes) on a subscription basis. In the design of this written material it is possible to cue different strategies. A good deal of creativity is required here. Some recommendations are:

A. Give short, test-like reviews of the program

material which the student can score themselves. Base the tests on different objectives such as "memory of material presented in the program" or "ability to apply the rule presented in the program to an unfamiliar situation". Give suggestions that students who do not score above some level on the memory test turn to the next page and read the short "strategy" section on "memory tricks". That section should present ways to memorize important material from the program. In this way the students performing as ONUS adults will be directed to corrective strategy whereas those performing as SAVY's will not.

B. Be candid and clear with adult learners. Tell them that low prior knowledge in an area requries that certain strategies be learned before more learning takes place. Tell them to make their own self assessment and read the strategy sections only if they have little experience with the material to be learned or if they have trouble memorizing, etc.

C. Organize the task to be learned very well, but permit and encourage those who think they will

have an easy time learning to do it their own way.

D. Keep in mind that it is the ONUS adult who is most vulnerable to the more open and nondirective approach. The SAVY adult is usually resilient and tends to recover from inappropriate instruction much more readily than the ONUS. Therefore, your responsibility is primarily to the ONUS student.

The demand for distance learning materials will not go away, nor will the individual differences of adult learners. Adult educators have a responsibility both to employ the best knowledge available from instructional research in the design of distance learning materials, and to build in instructional strategies which will be of most benefit to adult learners.

Notes

Note 1. Clark, Richard E. "Do Students Enjoy the Instructional Method from Which They Learn Least? Antagonism Between Achievement and Enjoyment in ATI Studies." An unpublished paper available from the author at the Department of Instructional Technology, Waite Phillips Hall 801, University of Southern California, Los Angeles, California, 90007.

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